Amendments to the Claims

The following Listing of Claims will replace all prior versions and listings of claims in this application:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) An apparatus that alters the total running time of an original multi-channel program signal that includes a plurality of individual channel signals, each individual channel signal being subdividable into a sequence of channel signal portions, each channel signal portion being subdividable into a sequence of channel signal windows, the apparatus comprising:

for each of two or more of the plurality of individual channel signals, a corresponding differencing circuit that receives said individual channel signal and determines, for each channel signal portion of said individual channel signal, a difference value indicative of a difference between a characteristic of an initial channel signal window in said channel signal portion and a characteristic of a subsequent channel signal window in said channel signal;

a difference value combining circuit that receives the difference values from each of the differencing circuits and combines said difference values to generate an overall difference value for a corresponding program signal portion of the multi-channel program signal; and

a removal circuit that deletes from the original multi-channel program signal a multi-window segment that begins with the initial channel signal window and ends with the subsequent channel signal window.

4. (Original) An apparatus as in claim 3, and further comprising:

threshold checking circuitry that determines whether the overall difference value meets a threshold value, the removal circuit being enabled to delete the multi-window segment if the difference value meets the threshold value.

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) A method of altering the total running time of an original multi-channel program signal that includes a plurality of individual channel signals, each individual channel signal being subdividable into a sequence of channel signal portions, each channel signal portion being subdividable into a sequence of channel signal windows, the method comprising:

for each of two or more of the individual channel signals, determining, for each channel signal portion of said individual channel signal, a difference value indicative of a difference between a characteristic of an initial channel signal window in said channel signal portion and a characteristic of a subsequent channel signal window in said channel signal portion such that the difference value meets a particular criterion;

combining the difference value from the individual signal channels to generate an overall difference value for a corresponding program signal portion of the multi-channel program signal;

determining whether the overall difference value meets a predefined threshold; and

in the event that the overall difference value meets the predefined threshold, deleting from the original multi-channel program signal a multi-window segment that begins with the initial channel signal window and end with the subsequent channel signal window[[.]]; and wherein the determining step comprises:

for each of said two or more individual channel signals, providing said individual channel signal to first and second shift registers, the contents of the first shift register being held while the channel signal is shifted through the second shift register for a compare period;

incrementing a shift counter at each shift of the channel signal through the second shift register; and

for each shift of the channel signal through the second shift register during the compare period, determining the difference value between the initial channel signal window of the signal portion of the channel signal held in the first shift register and subsequent channel signal windows of said signal portion being shifted through the second shift register.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Previously Presented) An apparatus that alters the total running time of an original multi-channel program signal that includes a plurality of individual channel signals, each individual channel signal being subdividable into a sequence of channel signal portions, each channel signal portion being subdividable into a sequence of channel signal windows, the apparatus comprising:

for each of two or more of the individual channel signals, a differencing circuit that receives said individual channel signal and determines, for each channel signal portion of said individual channel signal, a difference value indicative of a difference between a characteristic of an initial channel signal window in said channel signal portion and a characteristic of a subsequent channel signal window in said channel signal;

a difference value combining circuit that receives the difference values from each of the differencing circuits and combines said difference values to generate an overall difference value for a corresponding program signal portion of the multi-channel program signal; and

a removal circuit that deletes from the original multi-channel program signal a multi-window segment that begins with the initial channel signal window and ends with the subsequent channel signal window, and wherein

each differencing circuit includes,

first and second shift registers, each of which receives the associated individual channel signal as an input, the contents of the first shift register being held while the channel signal is shifted through the second shift register for a compare period;

a shift counter that is incremented at each shift of the channel signal through the second shift register; and

difference computing circuit that, for each shift of the channel signal through the second shift register during the compare period, determines the difference value between the initial channel signal window of the signal portion of the channel signal held in the first shift register and subsequent channel signal windows of said signal portion being shifted through the second shift register, and

for each differencing circuit,

a weighting circuit that multiplies the difference value provided by the difference computing circuit by a weighting factor for the associated channel signal.

26. (Previously Presented) An apparatus as in claim 25, and wherein the weighting factor for at least one channel signal is different than the weighting factor of another channel signal.

27. (Previously Presented) An apparatus as in claim 25, and wherein the weighting factor is the same for each channel signal of the multi-channel program signal.

28. (Previously Presented) An apparatus as in claim 25, and wherein the weighted difference values from the weighting circuits are combined by the difference value combining circuit to determine the overall difference value for the corresponding signal window of the multi-channel signal.

29. (Previously Presented) An apparatus as in claim 28, and wherein the removal circuit includes a removal control circuit that evaluates the overall difference values provided by the difference value combining circuit for each of the signal windows of the signal portion being shifted through the second shift register during the compare period to determine a best difference value and a best difference memory element for storing the best difference value.

30. (Previously Presented) An apparatus as in claim 29, and wherein the removal control circuit includes a compare circuit that compares the overall difference value provided by the difference value combining circuit for a particular signal window of the channel signal portion being shifted through the second shift register to the previous best difference value determined by the removal control circuit and stored in the best difference memory element and that, if said overall difference value is better than the previous best difference

value, replaces the previous best difference value stored in the best difference memory element with said new overall difference value.

31. (Previously Presented) An apparatus as in claim 30, and further comprising:

a count memory that stores the shift count value of the shift counter that is associated with the overall difference value of the signal window stored in the best difference memory element.

32. (Previously Presented) An apparatus as in claim 31, and wherein the overall difference value stored in the best difference memory element at the end of the compare period is provided to the threshold checking circuit.

33. (Previously Presented) An apparatus as in claim 32, and wherein, in the event that the overall difference value stored in the best difference memory element at the end of the compare period meets the predefined threshold, the removal circuit deletes from the original multi-channel program signal a multi-window segment that begins with the initial signal window and ends with the subsequent signal window corresponding to the signal window associated with the overall difference value stored in the best difference memory element at the end of the compare period.

34. (Previously Presented) A method of altering the total running time of an original multi-channel program signal that includes a plurality of individual channel signals, each individual channel signal being subdividable into a sequence of channel signal portions, each channel signal portion being subdividable into a sequence of channel signal windows, the method comprising:

for each of two or more of the individual channel signals, determining, for each channel signal portion of said individual channel signal, a difference value indicative of a difference between a characteristic of an initial channel

signal window in said channel signal portion and a characteristic of a subsequent channel signal window in said channel signal portion such that the difference value meets a particular criterion;

combining the difference value from the individual signal channels to generate an overall difference value for a corresponding program signal portion of the multi-channel program signal;

determining whether the overall difference value meets a predefined threshold; and

in the event that the overall difference value meets the predefined threshold, deleting from the original multi-channel program signal a multi-window segment that begins with the initial channel signal window and end with the subsequent channel signal window, and

wherein the determining step comprises:

for each of said two or more individual channel signals, providing said individual channel signal to first and second shift registers, the contents of the first shift register being held while the channel signal is shifted through the second shift register for a compare period;

incrementing a shift counter at each shift of the channel signal through the second shift register; and

for each shift of the channel signal through the second shift register during the compare period, determining the difference value between the initial channel signal window of the signal portion of the channel signal held in the first shift register and subsequent channel signal windows of said signal portion being shifted through the second shift register, and

for each difference value, multiplying the difference value by a weighting factor for the associated channel signal.

35. (Previously Presented) A method as in claim 34, and wherein the weighting factor is the same for each channel signal of the multi-channel program signal.

36. (Previously Presented) A method as in claim 35, and wherein the weighted difference values are combined to determine the overall difference value for the corresponding signal window of the multi-channel signal.

37. (Previously Presented) An apparatus as in claim 36, and further comprising:

evaluating the overall difference values for each of the signal windows of the signal portion being shifted through the second shift register during the compare period to determine a best difference value and storing the best difference value in a best difference memory element.

38. (Previously Presented) A method as in claim 37, and comparing the overall difference value for a particular signal window of the channel signal portion being shifted through the second shift register to the previous best difference value stored in the best difference memory element and if said overall difference value is better than the previous best difference value, replacing the previous best difference value stored in the best difference memory element with said new overall difference value.

39. (Previously Presented) A method as in claim 35, and further comprising:

storing in a count memory the shift count value associated with the overall difference value of the signal window stored in the best difference memory element.

40. (Previously Presented) A method as in claim 39, and wherein, in the event that the overall difference value stored in the best difference memory element at the end of the compare period meets the predefined threshold, deleting from the original multi-channel program signal a multi-window segment that begins with the initial signal window and ends with the subsequent signal window corresponding to the signal window associated with the overall

difference value stored in the best difference memory element at the end of the compare period.